Claims:

1. Insulating glass panel in which
two separate glass panes (2, 3) are kept at a distance by a spacer (4) formed from a section bar, which has an inner surface (12), an outer surface (6) and two flanks (11),
a drying agent is provided in combination with the spacer (4),
and a gap is provided on both sides of the spacer (4) between the spacer and the two glass panes (2, 3) which gap is sealed by a primary sealing compound (19) that adheres to the spacer (4) and to the glass panes (2, 3),
characterized in that a compound (18), which contains a drying agent, is arranged beside the primary sealing compound (19) that seals the two gaps, on the side (12) of the spacer (4) (hereinafter also described as the inside (12)) that faces the inner surface (17) of the insulating glass panel.

2. The insulating glass panel as defined in Claim 1, **characterized in that** the compound (18), which contains the drying agent, is arranged adjacent the primary sealing compound (19) that seals the two gaps, on the side (12) of the spacer (4) facing the inner space (17) of the insulating glass panel so that it covers the inside (12) to the extent the latter is not already covered by the primary sealing compound (19).

3. The insulating glass panel as defined in Claim 1 or Claim 2, **characterized in that** the compound (18) adheres to the spacer (4).

4. The insulating glass panel as defined in Claim 1, 2 or 3, **characterized in that** the compound (18) adheres to the primary sealing compound (19).

5. The insulating glass panel as defined in any of the preceding claims, **characterized in that** the compound (18) containing the drying agent is positively interlocked with the spacer (4).

6. The insulating glass panel as defined in Claim 5, **characterized in that** the positive connection between the compound (18) containing the drying agent and the spacer (4) exists at least at the transition from the inside (12) to the flanks (11) of the spacer (4).

7. The insulating glass panel as defined in Claim 5 or Claim 6, **characterized in that** for forming the positive connection the section bar has an undercut configuration over its full length.

8. The insulating glass panel as defined in Claim 7, **characterized in that** the positive connection between the spacer (4) and the compound (18) containing the drying agent is configured in the way of a dovetail connection.

9. The insulating glass panel as defined in any of the preceding claims, **characterized in that** the primary sealing compound (19) in the gap between the flanks (11) and the glass panes (2, 3) is free from drying agent or contains a lesser concentration of drying agent than the compound (18) containing a drying agent, present on the inside (12) of the spacer (4) facing the inner space (17) of the insulating glass panel.

10. The insulating glass panel as defined in any of the preceding claims, **characterized in that** a curable secondary sealing compound (20) is provided which connects the two glass panes (2, 3) directly or indirectly with the spacer (4) in an area closer to the outside than the primary sealing compound (19), and that produces a durable and stable bond between the glass panes (2, 3).

11. The insulating glass panel as defined in Claim 10, **characterized in that** two separate ropes of the secondary sealing compound (20) are provided, the one rope of which connects one glass pane (2) while the other rope connects the other glass pane (3) with the spacer (4).

12. The insulating glass panel as defined in Claim 11, **characterized in that** the secondary sealing compound (20) is provided only in the gap between the flanks (11) of the spacer (4) and the respective glass pane (2, 3) facing the flank (11).

13. The insulating glass panel as defined in Claim 11 or Claim 12, **characterized in that** the flanks (11) have a concave outer surface (15) in cross-section.

14. The insulating glass panel as defined in Claim 13, **characterized in that** the concave outer surface (15) is delimited on both sides by a flat surface area, the primary sealing compound (19) extending to one of the flat surface areas adjacent the inside (12) of the spacer (4).

15. The insulating glass panel as defined in any of the preceding claims, **characterized in that** the section bar consists of a plastic material.

16. The insulating glass panel as defined in any of the preceding claims, **characterized in that** the section bar has a rectangular cross-section.

17. The insulating glass panel as defined in Claim 16, **characterized in that** the width of the section bar is greater than its height.

18. The insulating glass panel as defined in Claim 15, 16 or 17, **characterized in that** the section bar is hollow and, especially, has a box section.

19. The insulating glass panel as defined in Claim 15, 16 or 17, **characterized in that** the section bar has a solid section.

20. The insulating glass panel as defined in Claim 19, **characterized in that** the section bar is made from a foamed material.

21. The insulating glass panel as defined in any of Claims 1 to 5, **characterized in that** the section bar has a U-shaped cross-section the back of which forms the inside of the spacer (4).

22. The insulating glass panel as defined in any of Claims 1 to 15, **characterized in that** the section bar has a U-shaped or a C-shaped cross-section the back of which forms the outside (6) of the spacer (4).

23. The insulating glass panel as defined in any of Claims1 to 15, **characterized in that** the section bar comprises a plurality of chambers in cross-section, one (9) of such chambers, being located in the middle between the flanks (11) on the inside (12) being open toward the inside (12) at least in places, preferably however over its full length, the opening(s) being covered by the compound (18) containing the drying agent.

24. The insulating glass panel as defined in any of Claims 1 to 15, **characterized in that** the section bar is hollow and open in places on its inside (12), the openings being covered by the compound (18) containing the drying agent.

25. The insulating glass panel as defined in any of the preceding claims, in which at least one cross bar (22) is arranged and fixed on the spacer (4) by end pieces (23), **characterized in that** the end pieces (23) engage through the compound (18) into a recess or opening in the spacer (4) located behind the compound.

26. The insulating glass panel as defined in Claim 25, **characterized in that** the recess or opening in the spacer (4) is closely adapted to the width of the end piece (23) at least in a direction transverse to the long direction of the section bar.

27. The insulating glass panel as defined in any of the preceding claims, **characterized in that** the outside (6) of the spacer (4) ends flush with the edge of the glass panes (2, 3).

28. The insulating glass panel as defined in Claim 27, **characterized in that** the outside (6) of the spacer (4) comprises projections (27) projecting on both sides beyond the flanks (11) of the spacer (4) and covering the edge of the two glass panes (3, 4).

29. The insulating glass panel as defined in Claim 27, **characterized in that** the secondary sealing compound (20) extends up to the area between the projections (27) of the spacer (4) and the edge of the glass panes (2, 3).

30. The insulating glass panel as defined in any of the preceding claims, **characterized in that** the spacer (4) comprises corners that are formed by bending of the section bar.

31. The insulating glass panel as defined in Claim 30, **characterized in that** the section bar is provided, at one corner of the frame-shaped spacer (4), with at least one recess (31, 32, 35) that extends over the entire width of the section bar.

32. The insulating glass panel as defined in Claim 31, **characterized in that** at least one recess (35) is provided on the outside (6).

33. The insulating glass panel as defined in Claim 31, **characterized in that** two recesses (31, 32) delimit two projections (33, 34) at the corner, which projections en-

gage each other after bending and lock the legs (11) of the spacer (4), joining each other at the corner, at a definite angle.

34. Method of producing an insulating glass panel having the features defined in any of the preceding claims, comprising the steps of:

(a) Providing a section bar;

(b) applying a compound (18) containing a drying agent, on the section bar, on the side of the spacer (4) which later forms the inside (12) of the spacer (4) and
applying a primary sealing compound (19) on the flanks (11) of the section bar so that the primary sealing compound (19), and the compound (18) containing the drying agent are arranged one adjoining the other and the compound (18) containing the drying agent comes to cover the inside (12) of the spacer (4) to the extent it is not covered by the primary sealing compound (19);

(c) forming the coated section bar into the shape of a frame-like structure;

(d) closing the frame-like structure to form a spacer (4) by joining the ends of the section bar one to the other;

(e) applying the spacer (4) to the first glass pane (2) so that it adheres to the pane in the neighborhood of the edge of the first glass pane (2);

(f) applying a second glass pane (3) to the spacer (4) in parallel to the first glass pane (2) so that the spacer adheres to the second glass pane (3) as well;

(g) compressing the two glass panes (2, 3) to the thickness predetermined for the insulating glass panel;

(h) bonding, if necessary, the spacer (4) to the two glass panes (2, 3) by application of a secondary sealing compound (20),
wherein the order in succession of the operations of applying the primary sealing compound (19) and of the compound (18) containing the drying agent may be exchanged or the primary sealing compound (19) and the compound (18) containing the drying agent may be applied simultaneously or in time-overlapping fashion.

35. The method as defined in Claim 34, **characterized in that** a first rope of the secondary sealing compound (20) is applied between the spacer (4) and the glass pane (2) and a second rope of the secondary sealing compound (20), separate from the first rope, is applied between the spacer (4) and the second glass pane (3).

36. Method of producing an insulating glass panel having the features defined in any of Claims 1 to 33 comprising the steps of:

(a) Providing a section bar;

(b1) applying a compound (18) containing a drying agent on the section bar, on the side of the spacer (4) which later forms the inside (12) of the spacer (4) and
applying a primary sealing compound (19), on the flanks (11) of the section bar so that the primary sealing compound (19), and the compound (18) containing the drying agent are arranged one adjoining the other and the compound (18) containing the drying agent comes to cover the inside (12) of the spacer (4) to the extent it is not covered by the primary sealing compound (19);

(b2) applying a secondary sealing compound (20) on the flanks (11) of the section bar;

(c) forming the coated section bar into the shape of a frame-like structure;

(d) closing the frame-like structure to form a spacer (4) by joining the ends of the section bar one to the other;

(e) applying the spacer (4) to the first glass pane (2) so that it adheres to the pane in the neighborhood of the edge of the first glass pane (2);

(f) applying a second glass pane (3) to the spacer (4) in parallel to the first glass pane (2) so that the spacer adheres to the second glass pane (3) as well;

(g) compressing the two glass panes (2, 3) to the thickness predetermined for the insulating glass panel;
wherein the order in succession of the operations of applying the primary and the secondary sealing compounds (19, 20) and of the compound (18) containing the drying agent may be exchanged or the application operations may be carried out simultaneously or in time-overlapping fashion.

37. Method of producing an insulating glass panel in which two glass panes (2, 3) are firmly bonded one to the other and are sealed by at least one sealing compound (19, 20), with a frame-like spacer (4) positioned between them, comprising the steps of:

(a) Producing a frame-like spacer (4) from one or more hollow-section bars having a base (5), two flanks (11) projecting from the base (5) and one side (12) which later faces the inner space of the insulating glass panel;

(b) applying a rope of a compound (18) containing a drying agent upon the side (12) which later faces the inner space of the insulating glass panel;

(c) applying the whole at least one sealing compound (19, 20) on the flanks (11) of the one or more hollow-section bars of the spacer (4); and

(d) bonding the spacer (4) to the two glass panes (2, 3),

wherein the order in succession of the steps (a), (b) and (c) may be exchanged.

38. Method of producing an insulating glass panel in which two glass panes (2, 3) are firmly bonded one to the other and are sealed by at least one sealing compound (19, 20), with a frame-like spacer (4) positioned between them, comprising the steps of:

(a) Providing one or more hollow-section bars having a base (5), two flanks (11) projecting from the base (5) and one side (12) which later faces the inner space of the insulating glass panel, in linear arrangement;

(b) applying a rope of a compound (18) containing a drying agent upon the side (12) which later faces the inner space of the insulating glass panel;

(c) applying at least one sealing compound (19, 20) on the flanks (11) of the one or more hollow-section bars;

(d) producing a frame-like spacer (4) from the one or more coated hollow-section bars; and

(d) bonding the spacer (4) to the two glass panes (2, 3),

wherein the order in succession of the steps (b) and (c) may be exchanged.

39. The method as defined in any of Claims 34 to 38, **characterized in that** a hollow-section bar having a box-shaped hollow cross-section is used.

40. The method as defined in any of Claims 34 to 39, **characterized in that** a spacer (4) is used which consists of a plastic material at least in part.

41. The method as defined in Claim 40, **characterized in that** the spacer (4) is formed from one or more section bars extruded from a plastic material.

42. The method as defined in any of Claims 34 to 41, **characterized in that** the compound (18), in which the drying agent is embedded, consists of a plastic material with bonding properties.

43. The method as defined in Claim 42, **characterized in that** the compound (18) in which the drying agent is embedded consists of a thermoplastic material.

44. The method as defined in Claim 42, **characterized in that** the compound (18) in which the drying agent is embedded consists of a foamed material.

45. The method as defined in any of Claims 34 to 44, **characterized in that** the compound (18) containing the drying agent consists of a sealing compound which efficiently prevents water vapor from penetrating into the inner space (17) of the insulating glass panel, and which is formulated preferably on the basis of polyisobutylene or other primary sealing compounds usual for insulating glass panels.

46. The method as defined in any of Claims 34 to 45, **characterized in that** the primary sealing compound (19) applied to the flanks (11) contains a drying agent.

47. The method as defined in Claim 46, **characterized in that** the primary sealing compound (19) applied to the flanks (11) contains a drying agent in a concentration lower than the compound (18) applied on the side of the spacer (4) which later becomes the inside (12).

48. The method as defined in any of Claims 34 to 47, **characterized in that** the primary sealing compound (19) and/or the compound (18) containing the drying agent contains a setting component.

49. The method as defined in any of Claims 34 to 48, **characterized in that** the secondary sealing compound (20) is applied adjacent the primary sealing compound (19).

50. The method as defined in any of Claims 34 to 49, **characterized in that** the secondary sealing compound (20) is applied following the primary sealing compound (19), but in time-overlapping relationship, or is applied simultaneously with the primary sealing compound.

51. The method as defined in Claim 49 or Claim 50, **characterized in that** the primary sealing compound (19) and the secondary sealing compound (20) are so applied that they project the farthest from the flanks (11) at the places where they are in contact one with the other.

52. The method as defined in Claim 50, **characterized in that** the primary sealing compound (19) and the secondary sealing compound (20) are so applied that the primary sealing compound (19) will project over the secondary sealing compound (20) at the joint between the two compounds, or is applied at that joint with the same thickness as the secondary sealing compound.

53. The method as defined in any of Claims 34 to 52, **characterized in that** if desired the section bar is subjected to a cutting operation prior to being coated.

54. The method as defined in any of Claims 34 to 53, **characterized in that** the section bar is coated using a nozzle (44), the orifice (46) of which, which may be subdi-

vided if desired, covers the inside (12) of the section bar and at least an adjacent strip of its flanks (11).

55. The method as defined in Claim 54, **characterized in that** a nozzle (44) is used which is adjustable in width.

56. The method as defined in Claim 54 or Claim 55, **characterized in that** the compound (18) containing the drying agent and the primary sealing compound (19) are combined in the nozzle (44).

57. The method as defined in Claim 56, **characterized in that** the primary and the secondary sealing compounds (19, 20) are likewise combined in the nozzle (44).

58. The method as defined in any of Claims 34 to 57, **characterized in that** the ends of the section bar are coated only after they have been connected one with the other.

59. The method as defined in Claim 58, **characterized in that** a wedge-shaped or groove-shaped recess (58), extending transversely to the long direction of the section bar, is provided and is subsequently sealed at the joint of the section bar on the side facing the inside.

60. The method as defined in Claim 58 or Claim 59, **characterized in that** the joint is covered with a badge (59) on the side (12) of the section bar facing the inside.

61. The method as defined in Claim 60, **characterized in that** the badge (59) is provided on its lower face with one or more extensions (60) that are pressed into the compound (18) containing the drying agent.

62. The method as defined in Claim 61, **characterized in that** the extensions (60) are pushed down into a recess (9) or an opening in the section bar which is covered by the compound (18) containing the drying agent.

63. The method as defined in any of Claims 34 to 62 of producing an insulating glass panel (1) in which at least one cross bar (22) is fitted, where an end piece (23) of the cross bar engages a recess (9) or an opening on the inside (12) of the spacer (4), **characterized in that** the point where the cross bar (22) is to be fitted, is marked on the section bar or on the compound (18) containing the drying agent applied to the inside (12), and that an end piece (23) is introduced at the marked point through the compound (18) and into the recess (9) or the opening of the spacer (4) located underneath the compound (18).

64. The method as defined in any of Claims 34 to 63, **characterized in that** the compound selected as primary sealing compound (19) is one which is particularly well suited for sealing the insulating glass panel from penetrating water vapor, especially one consisting of a thermoplastic polyisobutylene.

65. The method as defined in any of Claims 34 to 64, **characterized in that** the compound selected as secondary sealing compound (20) is one which is particularly well suited for bonding the glass panes (2, 3) durably and firmly, especially a curable plastic material, for example a polyurethane or a Thiokol (polysulfide), a reactive polyisobutylene, a silicon resin or a hot-melt.